

REMARKS

Claims 1, 4-29 and 31-34 are pending in the application and stand rejected. In particular, the following rejections under 35 U.S.C. § 103 have been maintained:

(i) Claims 1, 6-29 and 31-34 stand rejected as being unpatentable over U.S. Patent Publication No. 2002/0130377 to Khare et al. in view of U.S. Patent Publication No. 2002/0094593 to Chiou et al; and

(ii) Claims 4-5 stand rejected as being unpatentable over Khare and Chiou and further in view of U.S. Patent No. 6,525,365 to Basceri et al.

Again, Applicants respectfully traverse the rejections and contend that at the very least, the combination of Khare and Chiou is legally deficient to establish a *prima facie* case of obviousness against independent claims 1, 10, 16, 29 and 33. In particular, the combination does not disclose a process of forming a dielectric layer by *growing an oxynitride layer and annealing the oxynitride layer* as commonly recited in claims 1, 10, 16, 29 and 33, wherein annealing is performed under the conditions, as recited in the respective claims.

In the “Response to Arguments” section on page 4 of the Final Office Action, the Examiner fails to address, and simply ignores, key points raised by Applicants regarding the impropriety of the obviousness rejections. In particular, the Examiner acknowledges that Khare does not disclose low temperature anneal at the claimed 400 degrees C. However, the Examiner contends that “*It’s a matter of process choice*” and that Chiou’s disclosure of an anneal temperature range from 300 to 900 degrees C “*is perfect to establish a prima facie case of obviousness*”.

In contrast, Applicants contend that Examiner’s reliance on Khare and Chiou is a

“perfect” example of an improper obviousness rejection based on selective combination of elements from different references with utter lack of motivation or suggestion for combining the references. To begin, even assuming, *arguendo*, the plasma nitridation step (second growing step) of Khare is the same or similar to the claimed “annealing process”, Examiner’s contention that the claimed 400 degrees C anneal process “is a matter of process choice” is simply a contrived, unsupportable conclusion being asserted in an effort to meet the claimed inventions. In particular, as noted in Applicants’ previous response, such conclusion ignores Applicants’ teachings on page 11 of their specification, for example, that low temperature annealing according to the invention provides means for annealing defects from the oxynitride layer to achieve thin dielectric layers with decreased leakage currents.

In the Response to Arguments section, however, the Examiner does not address this point and offers no evidence or basis-in-fact that plasma nitridation at temperatures of 550 degrees C or more provide the same results as the claimed annealing steps under condition of 400 degrees C. Once again, if the Examiner has specific knowledge as to these disparate processes providing the same or similar results, Applicants request that Examiner provide a sworn affidavit (as is required under the MPEP) attesting to this and explaining the basis of Examiner’s knowledge in this regard.

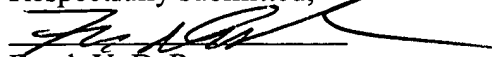
The Examiner’s reliance on Chiou is equally misplaced and erroneous as a matter of law. Indeed, Examiner’s reliance on Chiou’s is based on pure hindsight reasoning and selective combination of out of context disclosure. Although Chiou purportedly discloses an anneal process with a temperature range of the claimed inventions, the annealing process of Chiou is part of a fundamentally different process and performed for different reasons than as

contemplated by the claimed inventions.

To begin, Chiou discloses a method of forming an ARC (antireflective coating) of SION wherein annealing is performed to adjust the optical properties of the ARC layer (e.g., adjusting the extinction coefficient, k, of the dielectric ARC layer while holding the reflective index, n, at a constant value) (see, e.g., Abstract; Page 2, Para [0029]). Moreover, Chiou discloses that annealing in an O₂ atmosphere is more preferred for the particular results sought by Chiou (see, e.g., Col. 3, paragraph 32.), which actually teaches away from the claimed invention and demonstrates the different applications for the annealing.

In view of the above, it is clear that Examiner's reliance on the combination of Khare and Chiou is based on nothing more than impermissible hindsight reasoning and selective combination of processing steps from different references to derive the claimed inventions. As such, the obviousness rejections of claims 1, 10, 16, 29 and 33 are legally deficient and should be withdrawn. Moreover, to the extent that all remaining pending dependent claims are rejected as being obvious based, in part, on the combination of Chiou and Khare as applied to base claims 1, 10, 16, 29 and 33, the claim rejections do not support a *prima facie* case of obviousness at least for the same reasons given above. Accordingly, for the above reasons, withdrawal of the obviousness rejections is requested.

Respectfully submitted,



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